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(71) Applicant (for all designated States except US): **CREO IL. LTD.** [IL/IL]; 3 Hamada Street, P.O. Box 330, 46103 Herzlia (IL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **FIGOV, Murray** [IL/IL]; 2/18 Schwartz Street, 43213 Ra'anana (IL).

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(54) Title: LITHOGRAPHIC PRINTING PRECURSOR AND METHOD OF MAKING A PRINTING PLATE BY INK JET IMAGING

(57) Abstract: A method of preparing offset lithographic plates using specially formulated aqueous ink jet inks is described. The inks may either be pigment based and provide oleophilic images on specially formulated hydrophilic plate surfaces, or may contain chemical switches which provide the image on the plate by causing its surface to switch from hydrophilic to oleophilic or vice-versa. The lithographic printing plates comprise a coating, said coating comprising polyvinyl alcohol, polyacrylic acid, hydrophobic water-based emulsion with a PH of 7 or below aminoplast and a teast one metting agent.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B41C1/00 B41N1/08 B41N3/03

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B41C B41N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/055058 A1 (TAN SHIRO ET AL) 9 May 2002 (2002-05-09) paragraphs '0052!', '0165!', '0181!', '0183!', '0185!', '0190!'	1-30, 38, 39
X	EP 1 057 622 A (FUJI PHOTO FILM CO LTD) 6 December 2000 (2000-12-06) paragraphs '0165!', '0246!', '0247!', '0266!' - '0268!', '0314!', '0317!', '0318!'	1-30, 38, 39
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Spyropoulou, E

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002/051929 A1 (FUJITA KAZUO ET AL) 2 May 2002 (2002-05-02) paragraphs '0207!, '0214!, '0226!, '0573!	1-30, 38, 39
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL 03/01032

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-30,38,39

Claims 1-20 refer to a lithographic printing blank comprising a coating deposited from aqueous fluid onto a substrate, the coating comprising polyvinyl alcohol, polyacrylic acid, hydrophobic water-based emulsion with pH of 7 or below, aminoplast and at least a wetting agent. Claims 21-30 refer to the method of preparing a lithographic plate using said blank. Claims 38-39 refer to a wet printing process using said lithographic printing plate in order to produce printed impressions.

2. claims: 31-37

Claims 31-37 refer to an ink-jet ink comprising switchable material.

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